

Pesticide Use Reduction successes in Denmark

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Why reduction of pesticide use?

- **The Action Plan emphasised that “as it is extremely difficult to determine an environmentally acceptable level for the consumption of pesticides, it is necessary for the sake of the environment to reduce pesticide consumption as far as possible.”**

Goals of Pesticide Action Plans in Denmark

- **to protect consumers and land workers against health risks and harmful effects resulting from the use of pesticides and from ingestion of pesticides through food and drinking water**
- **to protect the environment against harmful effects from pesticides, both direct and indirect, in farmland, water courses and affected natural habitats.**

Concrete goals

In 1987: 50% reduction in pesticide use

In 2005: A Treatment Frequency Index less than 1.7 before 2009

Definition of Treatment frequency

The treatment frequency index expresses the average number of times per year agricultural land can be treated with the sold quantity of pesticides, assuming that the pesticides are used in the prescribed normal dosages.

The Bichel Committee states that the treatment frequency index is regarded as the best indicator of the burden on the environment.

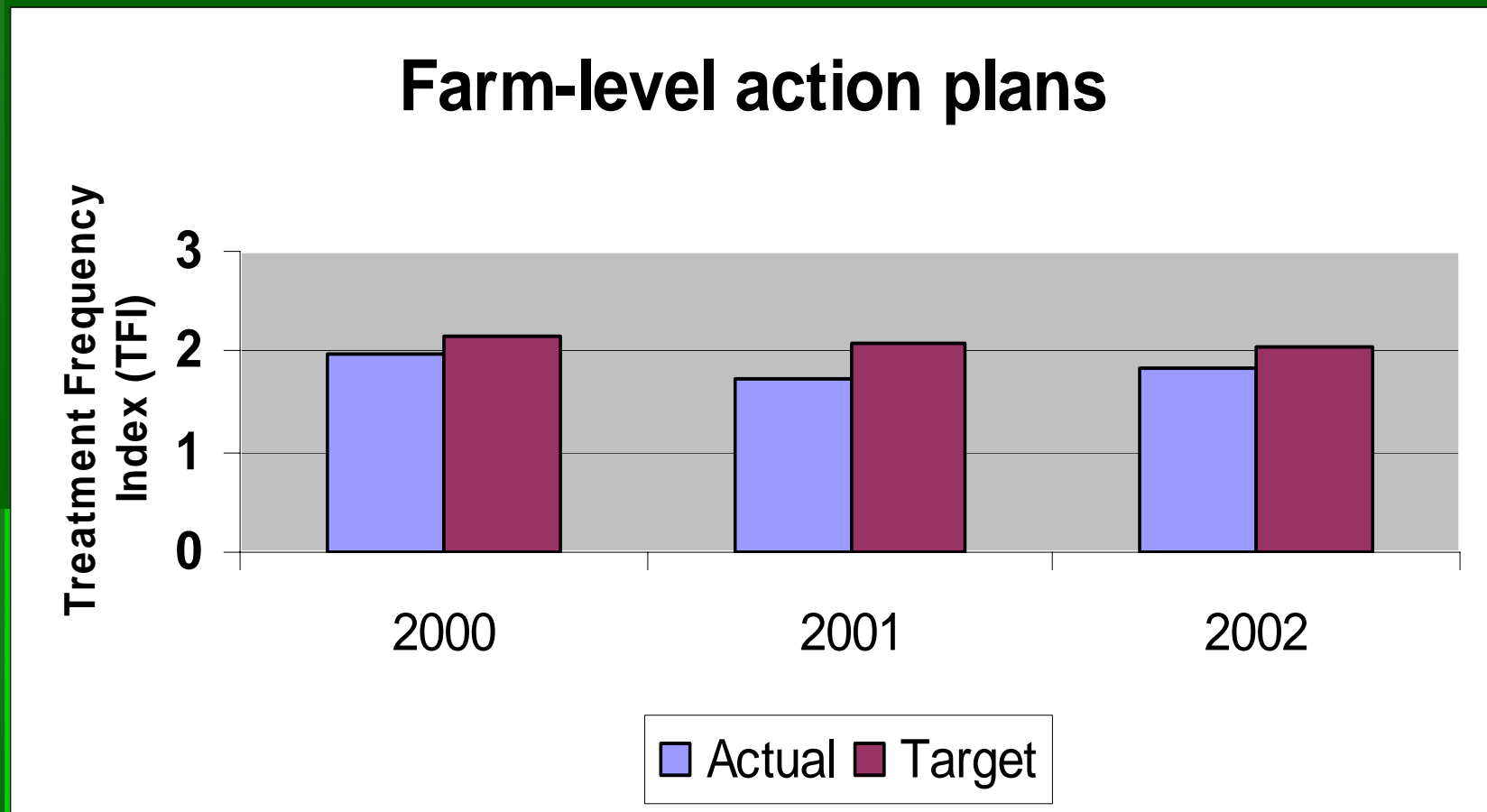
Use in 1994 and targets at farm level for 2002 and 2009

Treatment Frequency Index	1994	2002	2009
Winter wheat	3.20	2.30	1.75
Spring barley	1.80	1.40	1.30
Winter rape	2.50	1.55	1.55
Maize	1.30	1.20	1.05
Coach grass control	0.20	0.30	0.25
Average for all crops	2.51	2.09	1.77

Extensions service and plant protection groups

- **Advisory activities by farmers organisations**
- **Plant protection groups**
- **National Field Trials show an increase in the farmer income by lowering TFI**

Farm-level actions plans



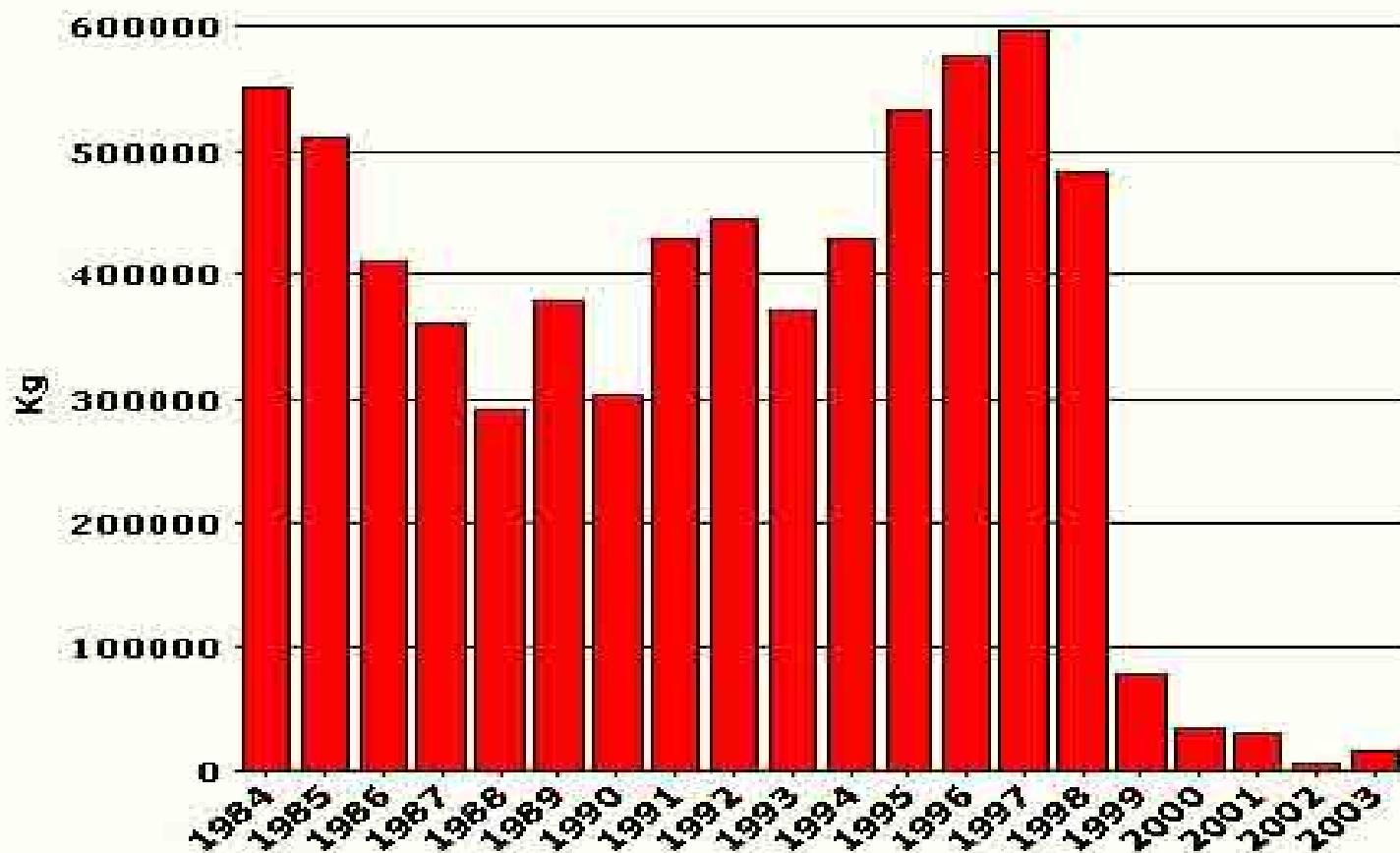
The Bichel Committee

- **Task: Assess the consequences of phasing out the use of pesticides**
- **All relevant stakeholders participated**
- **Unanimously conclusion: The TFI could be reduced by 30-40% in 5-10 years without significant costs to the farmers and the society**

Approval scheme

- **Only 78 out of 209 active ingredients approved**
- **Prohibition procedure for especial hazardous and harmful pesticides**
- **Ban of EU-approved pesticides like esfenvalerate and isoproturon**

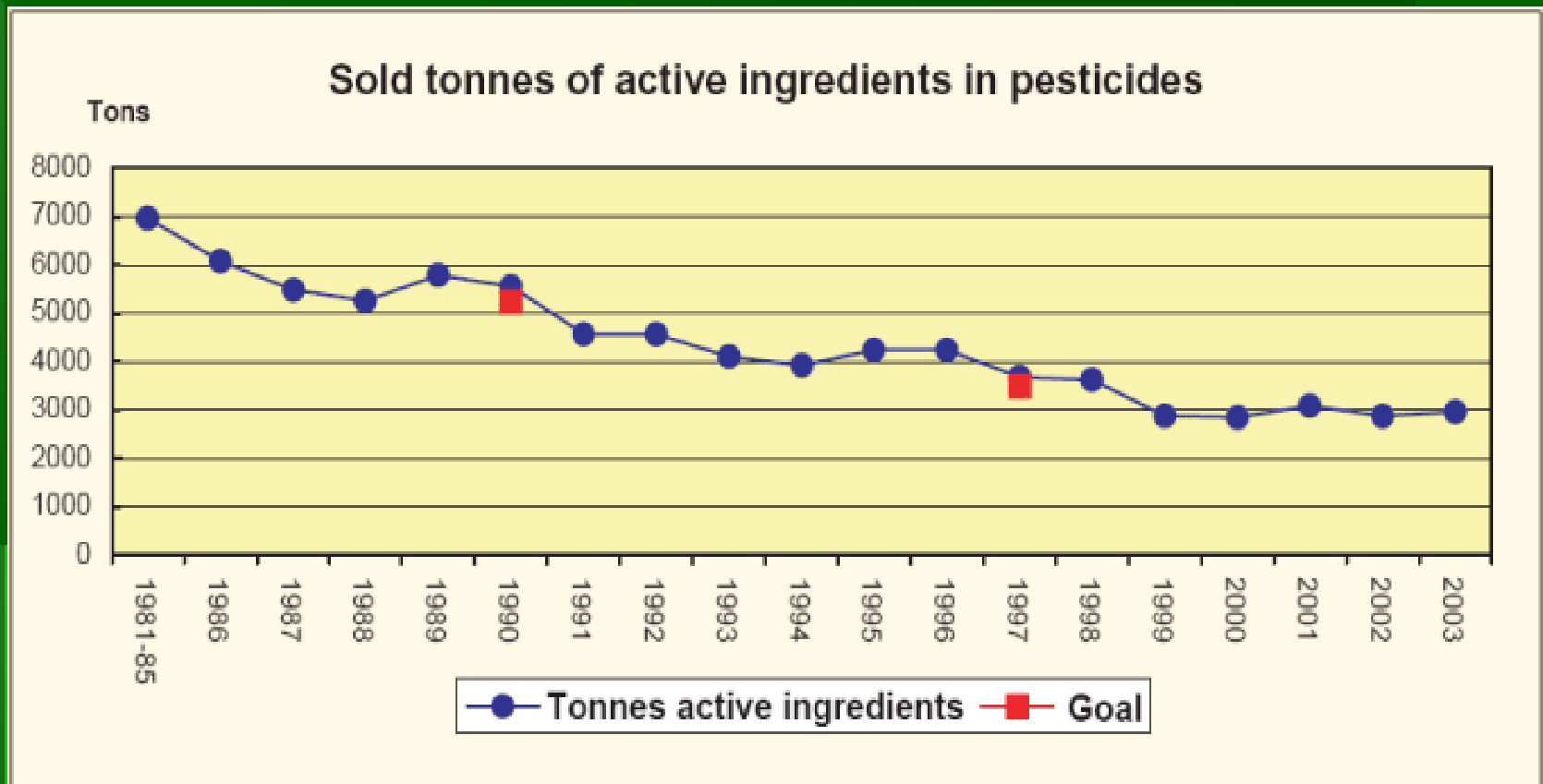
Carcinogenic pesticide use in agriculture in Denmark



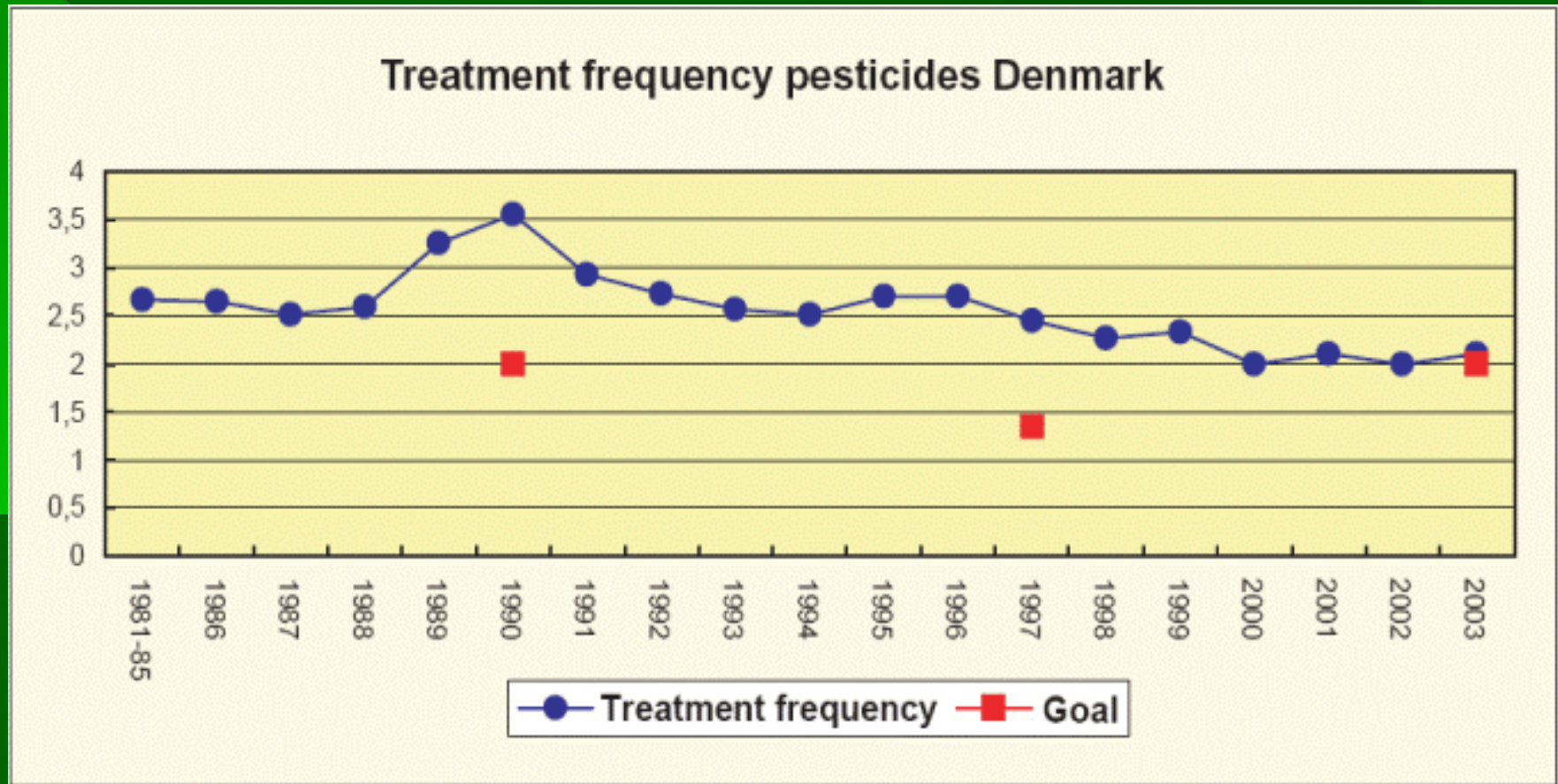
Pesticide taxation

- **54% tax of wholesale price for insecticides and 34% for the rest**
- **85% of the tax returned to farmers through funds**
- **Effect: 5-10% reduction in pesticide use**

Pesticide use in tonnes of active ingredients



Pesticide use in Treatment Frequency Index



Example of costs and yields using fungicides

	TFI	Fungicide price Euros/ha	Number of treatments	Yield Hkg/ha	Net yield Euros/ha
Denmark	0.85	40	2	84.1	740
Germany	6.27	250	4	88.2	530
Sweden	1.58	75	2	88.6	751
UK	3.55	130	4	90.7	650

Conclusion

Pesticide use reduction:

- **reduces health risks**
- **reduces harmful effects on the environment**
- **improves the farmers economy**